

# BRIGALOW BELT

# SOUTH BIOREGION

The Brigalow Belt South Bioregion (BBSB) covers an area of 52,400 square kilometres, which is 6.2 percent of the state. Located in the central north of New South Wales, it includes the towns of Dubbo, Merriwa, Coonabarabran, Narrabri, Moree and Wyallda.

Eighty-five percent of the bioregion is either freehold land or Crown leasehold, used primarily for agriculture. Eleven percent is State forest, while 2.6 percent is in national parks and nature reserves.

The Brigalow Belt South Bioregion Assessment has been undertaken in two stages, gathering information through a range of projects on the social, economic, environmental and cultural heritage values of the region's native forests and related natural resources.

Stage One began in October 1999 and Stage Two began in July 2000. Projects for Stage Two have been undertaken with the participation of key regional stakeholders. A list of projects is enclosed and copies of project summaries are included with this information kit. Reference copies of project reports are available at exhibition sites listed in this kit.

An outline of the region, based on information from these projects, follows.

## THE TIMBER INDUSTRY

The traditional native timber industry in the BBSB is based on white cypress pine and ironbark, which are important species in the Pilliga and Goonoo and the island forests of Gilgandra, Gunnedah and Terry Hie Hie.

There are twelve white cypress mills reliant on sawlogs from the BBSB and five hardwood mills drawing supplies from BBSB. The total white cypress sawlog allocation from State forest is 72,560 m<sup>3</sup> and the total hardwood sawlog allocation is 9,610 m<sup>3</sup>.

Other timber allocations from BBSB include 3,850 m<sup>3</sup> of timber for cypress posts and miscellaneous uses and 13,250 tonnes of firewood.

The estimated value of production from the BBSB mills is \$22.3 million. Employment in milling and logging is 241.

The total impacts including flow-on effects amount to \$41.5 million of gross output, 472 jobs and \$10.9 million in wages and salaries. This represents 1.1 percent of the BBSB economy and around 4 percent of the Coonabarabran economy where much of the activity is concentrated.

A microeconomic model of the timber industry has also been developed so that proposed changes to the industry can be assessed. That model is linked to the regional economic models to assess regional impacts of proposed changes.

## **OTHER FOREST INDUSTRIES**

The forest areas are also used for grazing and apiary activities that have been estimated to have a value of around \$10 million. The forest areas are also used for periodic grazing under a licence system that is estimated to have a value of between \$50,000 and \$75,000 per year. The firewood and other timber producing activities that operate in the forest have not been valued at this time.

## **MINING**

The BBSB contains existing and emerging economic gas resources of state and potentially national significance. If proved economic, there is potentially sufficient resources to supply gas requirements in New South Wales for a number of decades. The high potential of this gas resource is reflected by the fact that approximately \$53 million has been expended to date in its assessment. It has been estimated that the resources of conventional gas and coal seam methane have a potential value of approximately \$2 billion.

In addition, Eastern Star Gas is currently applying for development consent for their Coonarah gas deposit, west of Narrabri. Sales of gas are estimated to be worth \$30 million over the life of the field. This gas would be sold in Narrabri for industrial use and electricity generation. The economic benefits associated with the commercial exploitation of gas reserves in the BBSB include:

- local electricity generation for sale to Country Energy, with ancillary benefits on supply stability;
- the potential to lower the cost structure of industry and thereby facilitate major industrial investment eg. the proposed ethanol plant at Narrabri;
- value-adding to existing industries and local agricultural products through the use of more cost-efficient energy; and
- potential production of new products eg. Helium gas to displace current imports.

These gas projects and associated industrial applications have the potential to generate 250 jobs.

The majority of the area is also underlain by coal resources. The recovery of these resources will commence in the medium to long term. In the Vickery area the existing Whitehaven Open Cut and the proposed Belmont Open Cut is expected to provide employment to 50 people over the next 10 years. Other coal development proposals in the BBSB region are based at Gunnedah, Narrabri, Caroonah and in the Leard State Forest (Boggabri and Maules Creek projects). Mining leases have been granted for the Boggabri and Maules Creek open cut coal mines.

Coal resources in the region exceed 2 billion tonnes suitable for use for domestic power generation and for sales to the export thermal market. Potential investment in these proposals could total \$3 billion. These proposals have the potential to employ 800 people directly and 2,400 indirectly.

## **TOURISM**

Attractions are diverse across the region and include the Warrumbungle Aboriginal Site Tour, Bird Routes of Baradine and the Pilliga, Gilgandra Flora Reserve and Mount Kaputar National Park and the Siding Spring Observatory. Most tourism operations are small, with the exception of a few large attractions such as the Dubbo Western Plains Zoo. There were 46 attractions registered with Tourism NSW under the Visnet database in 1999 (Tourism NSW 1999).

It is estimated that nature based tourism and recreation, based around natural features of interest, walking tracks and national parks is the main reason for visiting rural areas in New South Wales (Stage 1: Attractions Development Strategy 1999).

Visitors make a significant contribution to the BBSB economy. Stage 1 estimated that there were approximately 1,252,000 visits to the region in 1996/97 (Tourism NSW Visitor Database 1996/97). Visitor expenditure in 1996/97 in the South Brigalow Region totalled \$200 million (Tourism NSW 2000).

In 1998/99 there were approximately 66,250 visits to national parks in the BBSB and 15,000 to State forests (RACAC 2000).

## **AGRICULTURE**

Agriculture is a core industry in the BBSB and, outside of Dubbo, accounts for around one-half of all jobs directly and indirectly. In 1996, the value of production was \$1,916m from 4,301 properties. The available data indicates that there has been little increase in the value of production until the last two years. This upturn will be short-lived given the current severe drought conditions.

Over the BBSB, grazing and cereal production are the main industries and these have relatively weak links to other industries. In the northern areas, there is considerable diversity in grain crops produced which, along with irrigation, provide a strong base for those economies and supporting industries.

Agricultural land use is closely linked to a range of environmental issues and there has been a substantial cultural change toward 'conservation farming' methods. The extent and significance of those changes is poorly documented, while their application in farming appears to have been curtailed because of the financial situation of many farmers through the 1990s.

## **PEOPLE AND COMMUNITIES**

Over 100,000 people live in the Brigalow Belt South Bioregion. While more than 35,000 live in and around Dubbo, perhaps what most characterises the region is the strong and closely knit communities of the smaller towns and rural areas. Many people have long associations with the Brigalow region – its landscape, its history and its people. Their sense of identity, as much as their livelihoods, is tied to this area and its communities.

While Dubbo has been a major growth centre for two decades, the Australia-wide trend of decline in rural towns is evident in many parts of the region. The regional economy lacks diversity beyond the primary industries and related manufacturing. Larger towns like Dubbo have drawn people from smaller communities in search of jobs and services, thus contributing to the decrease in jobs and services in areas outside Dubbo and other larger centres. As a consequence, many of the small communities are vulnerable to economic and social change.

Incomes in the BBSB average 85 percent of the New South Wales level. This percentage is about average for regional New South Wales. The highest percentages occur in industries with statewide-determined employment conditions such as mining, utilities, education and community care. Dubbo has the highest income levels in the region followed by those areas with diversified cropping and cotton production (Moree Plains, Narrabri and Gunnedah). The local government areas where broadacre agriculture is the core industry have lower average incomes. Outside Dubbo, household incomes across the region are well below the New South Wales average.

### **Aboriginal Community Interests**

Forested landscapes contain strong evidence of Aboriginal use of and spiritual links to the land. Lands of interest to the Aboriginal community can be protected through:

- the Forest Management Zoning system
- reserves dedicated or declared under the National Parks and Wildlife Act
- control of protection and management under co-operative management arrangements
- through involvement in the maintenance of natural forest values

The Forest Agreement will address current forest management practices in relation to Aboriginal cultural heritage and enterprise development opportunities. The NSW National Parks and Wildlife Service and State Forests NSW are reviewing Aboriginal cultural heritage practices in consultation with Local Aboriginal Land Councils, aiming to develop systems that will improve the management of cultural sites and landscapes to establish effective protection and greater involvement of Aboriginal communities in the decision making process.

## ENVIRONMENTAL FACTORS

Environmental conditions in the bioregion that influence conservation decisions include:

- lower and highly variable rainfall
- highly variable climate
- productivity is lower and more variable than eastern regions
- highly cleared and fragmented native vegetation over much of the bioregion
- past extinction rates high and current recovery rates of species are low
- recruitment of plants and animals tends to be concentrated over relatively small periods.

Because of these environmental conditions, stands produce smaller volumes of food (e.g. leaves, nectar) per area. Decomposition time is slow, nutrient cycles operate over longer periods and ecological processes take longer to recover from disturbance. Existing older hollow bearing trees contribute significant habitat.

Native vegetation is fragmented, with many areas of remnant vegetation subject to sustained grazing which removes understorey and affects plant regeneration. Factors associated with agriculture (fertilisers, herbicides and insecticides, changed water regimes and salinity) are all potentially harmful to long term survival of these remnants.

### Biodiversity

The Brigalow Belt South has high biodiversity with 533 vertebrate fauna species known to occur within the bioregion, including 58 threatened species. An additional 14 species are believed to have become extinct in recent history.

Threatened animal species include the endemic Pilliga mouse, barking owls (which occur in high densities in the region), greater long-eared bats, mallee fowl, koalas, various woodland bird species, the pale-headed snake and cave dwelling bats such as the large pied bat and eastern cave bat.

There have been 2,073 vascular plant species recorded in the bioregion including 100 rare or threatened species.

Fauna records include a mix of arid, coastal and endemic species. Recent finds include species never before recorded in New South Wales such as the zig zag gecko, delicate mouse and a dragon lizard which indicate several major range extensions of tropical species.

### Vegetation

The Joint Vegetation Mapping Project identified one hundred and eighteen vegetation groups through data analysis and aerial photography interpretation. The potential vegetation distribution patterns were identified through modelling and the extant vegetation derived from utilising aerial photography and satellite imagery.

The bioregion also contains eight vegetation communities listed as endangered or threatened under the Threatened Species Conservation Act 1995 (e.g. Brigalow, Ooline, Semi-evergreen Vine Thicket and Carbeen) and/or the commonwealth Environment Protection and Biodiversity Conservation Act 1999 (e.g. Grassy White Box Woodland).

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